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THE MARINE BIOLOGICAL LABORATORY

FOURTEENTH REPORT

FOR THE YEAR 1911

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I. TRUSTEES

EX OFFICIO

F. R. LILLIE, *Director*, The University of Chicago.

GILMAN A. DREW, *Assistant Director*, University of Maine.

D. BLAKELY HOAR, *Treasurer*, 161 Devonshire Street, Boston, Mass.

THOS. H. MONTGOMERY, JR.,¹ *Clerk of the Corporation*, University of Pennsylvania.

TO SERVE UNTIL 1915

H. C. BUMPUS.....University of Wisconsin.

R. A. HARPER.....Columbia University.

W. A. LOCY.....Northwestern University.

JACQUES LOEB.....Rockefeller Institute for Medical Research.

F. P. MALL.....Johns Hopkins University.

George T. MOORE.....Missouri Botanical Garden, *Secretary of the Board*.

L. L. NUNN.....Telluride, Colo.

JOHN C. PHILLIPS.....299 Berkeley Street, Boston, Mass.

¹ Deceased.

TO SERVE UNTIL 1914

CORNELIA M. CLAPP....Mount Holyoke College.
E. G. CONKLIN.....Princeton University.
ROSS G. HARRISON.....Yale University.
CAMILLUS G. KIDDER ...27 William Street, New York City.
M. M. METCALF.....Oberlin College.
WILLIAM PATTEN.....Dartmouth College.
JACOB REIGHARD.....University of Michigan.
W. B. SCOTT.....Princeton University.

TO SERVE UNTIL 1913

S. F. CLARKE.....Williams College.
CHARLES COOLIDGE.....Ames Building, Boston, Mass.
C. R. CRANE.....2559 Michigan Boulevard, Chicago, Ill.,
 President of the Board.
ALFRED G. MAYER.....Carnegie Institution.
T. H. MORGAN.....Columbia University.
ERWIN F. SMITH.....United States Department of Agriculture.
E. B. WILSON.....Columbia University.

TO SERVE UNTIL 1912

M. J. GREENMAN.....Wistar Institute of Anatomy and Biology.
C. W. HARGITT.....Syracuse University.
H. S. JENNINGS.....Johns Hopkins University.
GEORGE LEFEVRE.....University of Missouri.
A. P. MATHEWS.....The University of Chicago.
G. H. PARKER.....Harvard University.

II. ACT OF INCORPORATION

No. 3170.

COMMONWEALTH OF MASSACHUSETTS

Be It Known, That whereas Alpheus Hyatt, William Sanford Stevens, William T. Sedgwick, Edward G. Gardiner, Susan Minns, Charles Sedgwick Minot, Samuel Wells, William G. Farlow, Anna D. Phillips and B. H. Van Vleck have associated themselves with the intention of forming a Corporation under the name of the Marine Biological Laboratory, for the purpose of establishing and maintaining a laboratory or station for scientific study and investigation, and a school for instruction in biology and natural history, and have complied with the provisions of the statutes of this Commonwealth in such case made and provided, as appears from the certificate of the President, Treasurer, and Trustees of said Corporation, duly approved by the Commissioner of Corporations, and recorded in this office;

Now, therefore, I, HENRY B. PIERCE, Secretary of the Commonwealth of Massachusetts, *do hereby certify* that said A. Hyatt, W. S. Stevens, W. T. Sedgwick, E. G. Gardiner, S. Minns, C. S. Minot, S. Wells, W. G. Farlow, A. D. Phillips, and B. H. Van Vleck, their associates and successors, are legally organized and established as, and are hereby made, an existing Corporation, under the name of the MARINE BIOLOGICAL LABORATORY, with the powers, rights, and privileges, and subject to the limitations, duties, and restrictions, which by law appertain thereto.

Witness my official signature hereunto subscribed, and the seal of the Commonwealth of Massachusetts hereunto affixed, this twentieth day of March, in the year of our LORD ONE THOUSAND, EIGHT HUNDRED AND EIGHTY-EIGHT.

HENRY B. PIERCE,
Secretary of the Commonwealth.

[SEAL.]

III. BY-LAWS OF THE CORPORATION OF THE MARINE BIOLOGICAL LABORATORY

I. The annual meeting of the members shall be held on the second Tuesday in August, at the Laboratory, in Woods Hole, Mass., at 12 o'clock noon, in each year, and at such meeting the members shall choose by ballot a Treasurer and a Clerk, who shall be, *ex officio*, members of the Board of Trustees, and Trustees as hereinafter provided. At the annual meeting to be held in 1897, not more than twenty-four Trustees shall be chosen, who shall be divided into four classes, to serve one, two, three, and four years, respectively, and thereafter not more than eight Trustees shall be chosen annually for the term of four years. These officers shall hold their respective offices until others are chosen and qualified in their stead. The Director and Assistant Director, who shall be chosen by the Trustees, shall also be Trustees, *ex officio*.

II. Special meetings of the members may be called by the Trustees, to be held in Boston or in Woods Hole at such time and place as may be designated.

III. The Clerk shall give notice of meetings of the members by publication in some daily newspaper published in Boston at least fifteen days before such meeting, and in case of a special meeting the notice shall state the purpose for which it is called.

IV. Twenty-five members shall constitute a quorum at any meeting.

V. The Trustees shall have the control and management of the affairs of the Corporation; they shall present a report of its condition at every annual meeting; they shall elect one of their number President and may choose such other officers and agents as they may think best; they may fix the compensation and define the duties of all the officers and agents; and may remove them, or any of them, except those chosen by the members, at any time; they may fill vacancies occurring in any manner in their own number or in any of the offices. They shall from time to time elect members to the Corporation upon such terms and conditions as they may think best.

VI. Meetings of the Trustees shall be called by the President, or by any two Trustees, and the Secretary shall give notice thereof by written or printed notice sent to each Trustee by mail, postpaid. Seven Trustees shall constitute a quorum for the transaction of busi-

ness. The Board of Trustees shall have power to choose an Executive Committee from their own number, and to delegate to such Committee such of their own powers as they may deem expedient.

VII. The President shall annually appoint two Trustees, who shall constitute a committee on finance, to examine from time to time the books and accounts of the Treasurer, and to audit his accounts at the close of the year. No investments of the funds of the Corporation shall be made by the Treasurer except approved by the finance committee in writing.

VIII. The consent of every Trustee shall be necessary to a dissolution of the Marine Biological Laboratory. In case of dissolution, the property shall be given to the Boston Society of Natural History, or some similar public institution, on such terms as may then be agreed upon.

IX. These By-Laws may be altered at any meeting of the Trustees, provided that the notice of such meeting shall state that an alteration of the By-Laws will be acted upon.

X. Any member in good standing may vote at any meeting, either in person or by proxy duly executed.

IV. TREASURER'S REPORT

FOR THE YEAR ENDING DECEMBER 31, 1911

INCOME

Annual dues	\$	728.00	
Donations		13,412.00	
Homestead, general account (net)		1,111.93	
Miscellaneous:			
Interest on deposits	\$97.06		
Rent of microscopes	9.90		
Use of drain (4 years)	<u>16.00</u>	122.96	
Supply department		10,303.61	
Tuitions		<u>4,574.99</u>	\$30,253.49

EXPENSES¹

Administration	\$3,044.22
Advertising and printing	137.26
Bath house	96.91
Biological Bulletin (net)	1,082.66
Boats	6,003.45
Chemical department	838.44
Dormitories	72.97
Fish-trap	239.66
Homestead icehouse	609.92
Homestead shop	262.91
Instructors' salaries	3,175.00
Interest	150.00
Lectures	25.96
Library	1,297.71
Maintenance of buildings and grounds	1,879.00
Mosquito fund	280.47
Real estate	5,100.00
Scientific instruments	504.19

¹ Owing to a change in classification of expenses, the amounts charged the various accounts are not comparable with the reports of previous years.

Sundries.....	219.81	
Supply department.....	<u>8,008.53</u>	\$33,029.07 ¹

ITEMIZED LIST OF SUNDRY EXPENSES FOR THE YEAR 1911

Expenses of W. C. Curtis.....	\$29.79	
Howes' bills.....	1.84	
Teaming and freight.....	2.57	
Express.....	19.00	
Exchange on checks.....	21.36	
Care of lot in cemetery.....	2.00	
Gasoline for gas machine.....	31.90	
Palmer & Laughlin (order W. C. Curtis)....	6.00	
S. I. Snow (sundry bills).....	3.67	
Blades.....	.50	
U. S. Powers (sundry bills).....	2.10	
Services John G. Hubbard.....	60.00	
Ice.....	11.25	
John J. Veeder.....	.50	
Trustees' dinner.....	17.00	
E. E. Swift & Son.....	2.57	
Carpenter.....	13.74	
Charles J. Grinnell.....	1.35	
John F. Phillips (teaming).....	5.30	
Premium on bond on alcohol.....	7.50	
Recording deed.....	.89	
Recording declaration of trust.....	.79	
Express on pay-rolls to Woods Hole.....	5.25	
Pay-roll envelopes.....	.29	
Telegram.....	.30	
Tracing paper.....	3.60	
Carpenter (botany department).....	<u>.45</u>	\$251.51

Credit

Petty cash at Woods Hole for 1910.....	\$ 1.00	
Reprints.....	5.30	
Harvard Apparatus Company (check sent by error last year).....	<u>25.40</u>	31.70
		<u>\$219.81</u>

¹ On January 1, 1911, the Laboratory had cash on hand \$2,719.17; the overdraft for the year was therefore \$56.41, which has since been adjusted.

MOSQUITO FUND

Receipts

1910	Miss S. B. Fay.....	\$100.00	
	Joseph Fay, Jr.....	100.00	
	A. C. Harrison.....	100.00	
	H. K. Dyer.....	100.00	
1911	Charles R. Crane.....	<u>100.00</u>	\$500.00

Payments

1910	Services H. H. Brehme.....	\$ 50.00	
	3 pair rubber boots.....	19.50	
	Labor (regular pay-roll).....	30.00	
	Nets.....	1.47	
1911	Oil.....	5.40	
	Labor digging ditch.....	197.40	
	Carting.....	73.20	
	Spray for hose.....	9.72	
	Dr. Drew's expenses.....	11.13	
	T. E. Howes, June account.....	6.50	
	E. C. Brown Co.....	.42	
	John F. Phillips.....	1.70	
	Labor (regular pay-roll).....	<u>75.00</u>	481.44
			<u>\$18.56</u>

MARINE BIOLOGICAL LABORATORY INVESTMENTS

JANUARY 1, 1912

RESERVE FUND

Amount of fund December 1, 1899.....	\$4,553.14	
Received from life memberships.....	600.00	
Income to January 1, 1912.....	2,292.15	
Gain from sale of securities and rights.....	<u>372.38</u>	
	7,817.67	
Paid for current expenses of Laboratory.....	<u>6,000.00</u>	\$1,817.67

Reserve Fund now consists of the following:

\$3,000 Am. Tel. & Tel. Co. 4s cost.....	\$2,921.25
5 shs. Am. Smelting & Refining Co. Pfd. cost	732.00
5 shs. General Electric Co.....	756.25
14 shs. United Shoe Machinery Corp. Pfd.	
cost.....	393.75
Cash.....	<u>14.42</u>
	4,817.67

Part of the above stocks and bonds are held as collateral for loan of.....	<u>3,000.00</u>	\$1,817.67
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LIBRARY FUND

Amount of fund December 1, 1899.....	\$ 866.15	
Income to January 1, 1912.....	780.47	
Gain from sale of securities and rights.....	<u>96.39</u>	\$1,743.01

Library Fund now consists of the following:

3 shs. Am. Tel. & Tel. Co. cost.....	\$ 383.25
4/5 of \$1,000 Am. Tel. & Tel. Co. 4s cost	779.00
1 sh. Am. Smelting & Refining Co. Pfd. cost	122.00
2 shs. General Electric Co. cost.....	302.50
5 shs. United Shoe Mach. Corp. Pfd. cost....	140.63
Cash.....	<u>15.63</u>
	\$1,743.01

LUCRETIA CROCKER FUND

Amount of fund December 1, 1899.	\$2,500.00	
Income after paying students' fees.	557.91	
Sale of rights.	<u>8.79</u>	\$3,066.70

Lucretia Crocker Fund now consists of the following:

18 shs. Vermont & Mass. R. R. Co. cost.	\$2,416.50	
1 sh. West End Street R'y Co. cost.	83.00	
1 sh. Am. Tel. & Tel. Co. cost.	127.75	
1/5 of \$1,000 Am. Tel. & Tel. Co. 4s cost.	194.75	
1 sh. General Electric Co.	151.25	
Cash.	<u>93.45</u>	\$3,066.70

V. THE DIRECTOR'S REPORT

TO THE TRUSTEES OF THE MARINE BIOLOGICAL LABORATORY:

Gentlemen: The session just closed is the twenty-fourth continuous session of the Laboratory. The attendance of investigators was larger than ever before in the history of the Institution, and the total attendance the greatest since 1902 when the policy of restricting instruction was first definitely established. The principle of coöperation, placed at the foundation of the Laboratory by Professor Whitman, has never more fully justified itself; and it is a pleasure to testify to the generous spirit in which the corporation, the board of trustees, the staff and the employees of the institution have labored for its welfare. Through Mr. Crane's generosity the Laboratory has been presented with the Kidder Annex property, a lot of land situated between the botanical laboratory and the main building; and with more than three fourths of the shares of the Woods Hole Yacht Club property adjoining and continuing our frontage on the harbor. These additions practically complete the arrangements necessary for the next forward step.

We note with regret the resignation of Professor Nathaniel L. Britton from the board of trustees, presented at the summer meeting, owing to his inability to take an active share in affairs, and we extend cordial greetings to Professor R. A. Harper, of Columbia University, a newly elected member of the board, whose coöperation will greatly strengthen our work, especially on the botanical side. The board of trustees remains otherwise unchanged. There are three vacancies in the membership which it is the province of the board to fill. Steps should be taken to secure the best men to fill these vacancies.

Professor Curtis resigned as head of instruction in invertebrate zoölogy at the close of the summer, after four years of service, during which he successfully maintained the best traditions of the course. Particular importance attaches to this course as the

first to be established in the Laboratory and as lying at the foundation of the more advanced work. The directors have therefore considered the question of a successor to Professor Curtis with great care, and they are happy to be able to announce that Professor Caswell Grave, of Johns Hopkins University, has accepted the appointment as Professor Curtis' successor. We believe that no better selection could have been made. Professor Grave is given a free hand in the selection of other instructors in the course.

The attendance in 1911 taxed the resources of the Laboratory to the utmost. The number of investigators was 82 during the entire season and of students 65, a total of 147. For comparison I give the figures since 1903:

	1903	1904	1905	1906	1907	1908	1909	1910	1911
Investigators..	76	51	68	68	60	52	66	62	82
Students.....	54	51	57	41	47	48	63	64	65
Total	130	102	125	109	107	100	129	126	147

But the actual increase in the number of investigators does not tell the full story. For several years there has been a steadily growing tendency on the part of workers at the Laboratory to make Woods Hole their regular summer home and to purchase houses there. The body of workers at the Laboratory has thus become not only larger, but more constant in attendance; the increase of attendance this year is therefore to be regarded as normal, not due to exceptional causes. That the Laboratory should come to be regarded as their regular summer home and working place by so large a number of prominent naturalists must be a source of gratification to all the members of the board; while it serves at the same time to emphasize anew the need of greatly increased accommodations. Such over-crowding as existed for a considerable part of last summer is certainly undesirable and its continuance for any considerable length of time could not be anticipated with composure. Neither do we wish to restrict the policy of hospitality which has been so characteristic of the Laboratory in the past.

The proposed new building is, therefore, a necessity for working space alone. And it is equally important for two other reasons:

first, to provide for the development of a more adequate library, which will remove one of the most serious limitations of our research facilities, and second, to provide more commodious quarters for certain types of research, especially in experimental lines. For the season of 1912 some additional working space will be available in the Kidder Annex, so that it may be hoped that the crowding will be no worse next year than it was this.

During the last five years there has been a steady increase in the number of subscribing institutions, from 16 in 1907 to 25 in 1911, and on the whole there is reason to believe that the present list contains fewer subscriptions for the year only than ever before; there are, moreover, indications that the increase in number may be expected to continue for some years to come. A new form of arrangement was entered into this year with the Rockefeller Institute for Medical Research of New York City, under the terms of which the Rockefeller Institute has erected a small laboratory for the use of Professor Jacques Loeb on land of the Marine Biological Laboratory, but receives other facilities and service on precisely the same terms as other co-operating institutions. Without the additional laboratory space thus provided, it would have been necessary to refuse accommodations to a number of investigators. The director has also been notified of the endowment of a scholarship in Normal College, New York City, in memory of Else Seringhaus, formerly a student at the Marine Biological Laboratory for several years. The income of the fund of \$1,000.00, to be known as the Else Seringhaus Scholarship, is to be applied to the payment of tuition fees for one student each year at the Marine Biological Laboratory or elsewhere, as may be designated by the committee of award.

Following the recommendation in the director's report for 1910, Professor Gilman A. Drew was appointed resident assistant director at the summer meeting of the Board of Trustees. This step was taken none too soon, as the burden of administration of Laboratory affairs, which has been largely carried by Professor Drew for several years, in addition to regular university work, was already much too great; the Laboratory needs such service as Professor Drew's experience and character fit him so

eminently well to render, and we can now face the growing complexities of the Laboratory with confidence and more ease.

Among additions to the equipment of the Laboratory during the year may be noted a large motor boat, a Zeiss microscope of the best and newest model and a new microtome. The mess did an unusually large business and exhibits an unexpectedly large surplus, all of which is to be turned back into improvements in its equipment and service. Among these may be mentioned a new ice-house costing \$600.00 and a work-shop costing \$250.00 already completed. The supply department has made its usual gain in business transacted, and it is worth noting that under Mr. Gray's management this business has increased from \$5,616.54 in 1906 to \$10,303.61 in 1911.

Our thanks are again due Mr. Crane for the donations which have enabled us to maintain the work of the Laboratory on an efficient basis; and for the presentation of additional stock of the Yacht Club, and the Kidder Annex property.

There are appended as parts of this report the names of the staff for 1911, a list of investigators and students with a tabular view of attendance since 1908, and lists of subscribing institutions, of the evening lectures for 1911, and of the members of the corporation.

I. THE STAFF.

F. R. LILLIE, DIRECTOR,

Professor of Embryology and Chairman of the Department of
Zoölogy, The University of Chicago.

GILMAN A. DREW, ASSISTANT DIRECTOR,

Professor of Biology, University of Maine.

ZOÖLOGY

I. INVESTIGATION

Zoölogy and Embryology

- GARY N. CALKINS.....Professor of Protozoölogy, Columbia University.
E. G. CONKLIN.....Professor of Zoölogy, Princeton University.
GILMAN A. DREW.....Professor of Biology, University of Maine.
GEORGE LEFEVRE.....Professor of Zoölogy, University of Missouri.
FRANK R. LILLIE.....Professor of Embryology, The University of Chicago.
T. H. MONTGOMERY, JR..Professor of Zoölogy, University of Pennsylvania.
T. H. MORGAN.....Professor of Experimental Zoölogy, Columbia University.
E. B. WILSON.....Professor of Zoölogy, Columbia University.

II. INSTRUCTION

- WINTERTON C. CURTIS...Professor of Zoölogy, University of Missouri.
PAUL M. REA.....Professor of Biology, College of Charleston, and Director of the Charleston Museum.
EDWARD E. WILDMAN....Central High School, Philadelphia.
JOHN W. SCOTT.....Westport High School, Kansas City.
G. S. DODDS.....Professor of Biology, St. Louis University.
J. F. ABBOTT.....Professor of Zoölogy, Washington University.

EMBRYOLOGY**I. INVESTIGATION. (See Zoölogy)****II. INSTRUCTION**

- GILMAN A. DREW Professor of Biology, University of Maine.
 LORANDE L. WOODRUFF Assistant Professor of Biology, Yale University.
 WILLIAM E. KELLICOTT Professor of Biology, Goucher College.
 ROBERT A. BUDINGTON Associate Professor of Zoölogy, Oberlin College.

PHYSIOLOGY**I. INVESTIGATION**

- ALBERT P. MATHEWS Professor of Physiological Chemistry, The University of Chicago.
 R. S. LILLIE Instructor in Comparative Physiology, University of Pennsylvania.
 HAROLD C. BRADLEY Assistant Professor of Physiological Chemistry, University of Wisconsin.

II. INSTRUCTION

- H. H. NEWMAN Professor of Zoölogy, University of Texas.
 CHARLES G. ROGERS Associate Professor of Physiology, Syracuse University.
 F. H. PIKE Instructor in Physiology, The University of Chicago.

PHILOSOPHICAL ASPECTS OF BIOLOGY AND ALLIED SCIENCES**LECTURES**

- EDWARD G. SPAULDING Assistant Professor of Philosophy, Princeton University.

BOTANY

- GEORGE T. MOORE Professor of Plant Physiology and Applied Botany, Washington University.
 GEORGE R. LYMAN Assistant Professor of Botany, Dartmouth College.
 B. M. DUGGAR Professor of Plant Physiology, Cornell University.
 IVEY F. LEWIS Professor of Biology, Randolph-Macon College.
 LEWIS KNUDSON Instructor in Plant Physiology, Cornell University.

LIBRARY

H. McE. KNOWER University of Cincinnati, Librarian.

CHEMICAL SUPPLIES

OLIVER S. STRONG College of Physicians and Surgeons, New
York City, Chemist.

G. M. GRAY Curator of Supply Department.

THOMAS M. DOUTHART

and JOHN J. MORTON . . Collectors in Zoölogy.

J. M. IRWIN Collector in Botany, Dartmouth College.

JOHN VEEDER Cockswain.

2. INVESTIGATORS AND STUDENTS

1911

INVESTIGATORS—OCCUPYING ROOMS.

ZOÖLOGY

- ABBOTT, JAMES FRANCIS, Professor of Zoölogy, Washington University.
ADDISON, W. H. F., Demonstrator of Histology and Embryology, University of Pennsylvania.
BARTELMIZ, GEORGE W., Associate in Anatomy, University of Chicago.
BECKWITH, CORA J., Instructor in Biology, Vassar College.
BUDINGTON, ROBERT A., Associate Professor of Zoölogy, Oberlin College.
CALKINS, GARY N., Professor of Protozoölogy, Columbia University.
CHAMBERS, ROBERT, Columbia University.
CLAPP, CORNELIA M., Professor of Zoölogy, Mount Holyoke College.
CONKLIN, E. G., Professor of Zoölogy, Princeton University.
CRAIG, WALLACE, Professor of Philosophy, University of Maine.
CURTIS, W. C., Professor of Zoölogy, University of Missouri.
DODDS, GIDEON S., Instructor of Zoölogy, University of Missouri.
DREW, GILMAN A., Assistant Director, Marine Biological Laboratory, Woods Hole, Mass.
DUNN, ELIZABETH HOPKINS, Instructor in Anatomy, University of Chicago.
FOX, HENRY, Professor of Biology, Ursinus College, Collegeville, Pa.
GOLDFARB, A. J., Instructor, College of the City of New York.
HARVEY, BASIL C. H., Assistant Professor of Anatomy, University of Chicago.
HARVEY, E. NEWTON, Instructor in Physiology, Princeton University.
HOGUE, MARY J., Instructor in Zoölogy, Mount Holyoke College.
KELLEY, FRANK J., Assistant in Experimental Breeding, University of Wisconsin.
KELLICOTT, WILLIAM E., Professor of Biology, Goucher College.
KNOWER, H. MCE., Professor of Anatomy, University of Cincinnati.
LEFEVRE, GEORGE, Professor of Zoölogy, University of Missouri.
LILLIE, FRANK R., Professor of Embryology, University of Chicago.
LYON, MARY B., Instructor in Zoölogy, Mount Holyoke College.
MCCLUNG, C. E., Professor of Zoölogy, University of Kansas.
MAYER, A. G., Director, Department of Marine Biology, Carnegie Institution.
MONTGOMERY, T. H., Jr., Professor of Zoölogy, University of Pennsylvania.
MORGAN, T. H., Professor of Experimental Zoölogy, Columbia University.
PACKARD, CHARLES, Assistant in Zoölogy, Columbia University.
PATON, STEWART, Lecturer in Biology, Princeton University.
PATTEN, WILLIAM, Professor of Biology, Dartmouth College.
PATTERSON, J. T., Adjunct Professor of Zoölogy, University of Texas.
QUACKENBUSH, L. S., 27 West 73d Street, New York City.
REA, PAUL M., Professor of Biology, College of Charleston.
SCOTT, JOHN W., Westport High School, Kansas City, Mo.

- STRONG, OLIVER S., Instructor in Anatomy, College of Physicians and Surgeons, New York City.
- WHITNEY, D. D., Associate Professor of Zoölogy, Wesleyan University, Middletown, Conn.
- WIEMAN, H. L., Assistant Professor of Zoölogy, University of Cincinnati.
- WILDMAN, E. E., Professor of Zoölogy, Central High School, Philadelphia, Pa.
- WILSON, E. B., Professor of Zoölogy, Columbia University.
- WOODRUFF, L. L., Assistant Professor of Biology, Yale University.

PHYSIOLOGY

- AMBERG, SAMUEL, Associate Professor of Pediatrics, Johns Hopkins University.
- BANCROFT, FRANK W., Associate, Rockefeller Institute for Medical Research, New York City.
- BEUTNER, REINHARD, Assistant, Rockefeller Institute for Medical Research, New York City.
- BRADLEY, H. C., Assistant Professor of Physiological Chemistry, University of Wisconsin.
- DONALDSON, H. H., Professor of Neurology, Wistar Institute of Anatomy and Biology.
- FERGUSON, J. S., Assistant Professor of Histology, Cornell University Medical School.
- GLASER, O. C., Assistant Professor of Zoölogy, University of Michigan.
- LILLIE, R. S., Instructor in Physiological Zoölogy, University of Pennsylvania.
- LOEB, JACQUES, Rockefeller Institute for Medical Research, New York City.
- MATHEWS, A. P., Professor of Physiological Chemistry, University of Chicago.
- MATHEWS, SAMUEL A., Assistant Professor of Experimental Therapeutics, University of Chicago.
- MEIGS, E. B., Fellow in Zoölogy, Wistar Institute of Anatomy and Biology.
- NEWMAN, H. H., Associate Professor of Zoölogy, University of Chicago.
- PIKE, FRANK W., Instructor in Physiology, University of Chicago.
- ROGERS, CHARLES G., Professor of Physiology, Syracuse University.
- SPAULDING, E. G., Assistant Professor of Philosophy, Princeton University.
- WASTENEYS, HARDOLPH, Assistant, Rockefeller Institute for Medical Research, New York City.

BOTANY

- DERICK, CARRIE M., Assistant Professor of Botany, McGill University.
- DUGGAR, B. M., Professor of Plant Physiology, Cornell University.
- KNUDSON, LEWIS, Instructor in Plant Physiology, Cornell University.
- LEWIS, IVEY F., Professor of Biology, Randolph-Macon College.
- LYMAN, GEORGE R., Assistant Professor of Botany, Dartmouth College.
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1911

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3. TABULAR VIEW OF ATTENDANCE

	1908	1909	1910	1911
INVESTIGATORS—Total.....	52	66	62	82
Occupying Rooms				
Zoölogy.....	32	39	33	42
Physiology.....	6	7	9	18
Botany.....	8	4	9	8
Occupying Tables				
Zoölogy.....	6	14	5	12
Physiology.....		2	2	2
Botany.....			1	
STUDENTS—Total.....	48	63	64	65
Zoölogy.....	19	36	31	26
Embryology.....	15	12	10	20
Physiology.....	3	9	5	6
Botany.....	11	6	17	13
INSTITUTIONS REPRESENTED				
By Investigators.....	25	27	26	37
By students.....	26	20	24	31
SCHOOLS AND ACADEMIES REPRESENTED				
By investigators.....	2	3	5	3
By students.....	3	11	6	9

4. SUBSCRIBING INSTITUTIONS, 1911

BRYN MAWR COLLEGE.
COLUMBIA UNIVERSITY.
DARTMOUTH COLLEGE.
GOUCHER COLLEGE.
LUCRETIA CROCKER SCHOLARSHIP.
MOUNT HOLYOKE COLLEGE.
NORTHWESTERN UNIVERSITY.
OBERLIN COLLEGE.
PRINCETON UNIVERSITY.
ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH.
SHEFFIELD SCIENTIFIC SCHOOL OF YALE UNIVERSITY.
SMITH COLLEGE.
SYRACUSE UNIVERSITY.
TRINITY COLLEGE, HARTFORD, CONN.
UNIVERSITY OF CHICAGO.
UNIVERSITY OF CINCINNATI.
UNIVERSITY OF ILLINOIS.
UNIVERSITY OF KANSAS.
UNIVERSITY OF MICHIGAN.
UNIVERSITY OF PENNSYLVANIA.
VASSAR COLLEGE.
WASHINGTON UNIVERSITY ALUMNI ASSOCIATION.
WESTERN COLLEGE FOR WOMEN.
WELLESLEY COLLEGE.
WISTAR INSTITUTE OF ANATOMY AND BIOLOGY.
SCHOLARSHIP OF \$100. SUPPORTED BY A FRIEND OF THE LABORATORY
SINCE 1898.

5. EVENING LECTURES, 1911

- GARY N. CALKINS....."The Scope of Protozoölogy".... June 30.
 G. H. PARKER....."Some Recent Work on Animal
 Reactions to Colored Light".. July 3.
 T. H. MORGAN....."What is the Mechanism of Men-
 delian Segregation in the Germ
 Cells?"..... July 7.
 I. F. LEWIS....."Alternation of Generations and
 Periodicity in the Marine Algæ" July 11.
 SIMON FLEXNER....."The Biological Basis of the Treat-
 ment of Disease"..... July 14
 WALLACE CRAIG....."Why Do Birds Sing?"..... July 18.
 J. McKEEN CATTELL...."Science and Democracy"..... July 21.
 BRADLEY M. DAVIS....."The Synthesis and Behavior of
 Some Hybrids that Resemble
 Oenothera Lamarckiana"..... July 25.
 JACQUES LOEB....."The Life-Preserving Action of
 Salts"..... July 28.
 E. G. SPAULDING....."Bergson's Creative Evolution".. Aug. 4.
 W. M. WHEELER....."Insect Parasitism and Its Peculi-
 arities"..... Aug. 8.

6. MEMBERS OF THE CORPORATION OF THE MARINE BIOLOGICAL LABORATORY AUGUST 8, 1911

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